



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(B&W No. 004686-00004)

Applicant: Colson et al.
U.S. Serial No.: 09/869,941
Filed: January 4, 2002
Title: Non Woven Fabric and Method and Apparatus for Manufacturing
Same
Examiner: Befumo, J. L.
Art Unit: 1771
Conf. No.: 4413

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**FEE TRANSMITTAL
for FY 2005**☐ Applicant claims small entity status. See 37 CFR 1.27**TOTAL AMOUNT OF PAYMENT** (\$) \$500.00**Complete if Known**

Application Number	09/869,941
Filing Date	January 4, 2002
First Named Inventor	Wendell B. Colson
Confirmation No.	4413
Art Unit	1771
Attorney Docket No.	004686-00004

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Application Type	FILING FEES		SEARCH FEES		EXAMINATION FEES		Fees Paid (\$)
	Fee (\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	Fee(\$)	Small Entity Fee(\$)	
Utility	300	150	500	250	200	100	
Design	200	100	100	50	130	65	
Plant	200	100	300	150	160	80	
Reissue	300	150	500	250	600	300	
Provisional	200	100	0	0	0	0	

2. EXCESS CLAIM FEES**Fee Description**Each claim over 20 (including Reissues)
Each independent claim over 30 (including Reissues)
Multiple dependent claims**Total Claims** **Extra Claims** **Fee(\$)** **Fee Paid (\$)**____ -20 or HP= ____ x ____ =
HP = highest number of total claims paid for, if greater than 20.**Indep. Claims** **Extra Claims** **Fee(\$)** **Fee Paid (\$)**____ - 3 or HP= ____ x ____ =
HP = highest number of independent claims paid for, if greater than 3.**RECEIVED
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FEB 03 2006**

Small Entity	
Fee (\$)	Fee (\$)
50	25
200	100
360	180
Multiple Dependent Claims	
Fee (\$)	Fee Paid (\$)
____	____

3. APPLICATION SIZE FEE

If the specification and drawings exceed 100 sheets of paper (excluding electronically filed sequence or computer listings under 37 CFR 1.52(e)), the application size fee due is \$250 (\$125 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).

Total Sheets	Extra Sheets	Number of each additional 50 or fraction thereof	Fee (\$)	Fee Paid (\$)
____	____	____	____	____

____ - 100 = ____ / 50 = ____ (round up to a whole number) x ____ = ____

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Other (e.g., late filing surcharge): _____ Filing a Brief in Support of an Appeal

Fees Paid (\$)

500.00

SUBMITTED BY

Signature		Registration No. (Attorney/Agent)	29,822	Telephone	617-720-9600
Name (Print/Type)	Ernest V. Linek	Date	01/30/06		

This collection of information is required by 37 CFR 1.136. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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Docket No. 4686/00004

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE
BOARD OF PATENT APPEALS AND INTERFERENCES

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APPLICANT: Colson et al. FEB 01 2006
SERIAL NO.: 09/869,941
FILED: 04 January 2002
FOR: Non Woven Fabric and Method and Apparatus for
Manufacturing Same
EXAMINER: Befumo, J.L.
GROUP: 1771

BOARD OF PATENT APPEALS
AND INTERFERENCES

Board of Patent Appeals and Interference
P.O. Box 1450
Alexandria, VA 22313-1450
FILED VIA EXPRESS MAIL ON JANUARY 30, 2006

APPEAL BRIEF UNDER 37 C.F.R. §1.192

Applicants respectfully appeal the decision of Examiner Befumo dated July 28, 2005, and reaffirmed in an Advisory Action dated November 14, 2005, finally rejecting claims 158-199, i.e., all of the claims remaining in the present application.

Respectfully submitted,

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Date: 30 January 2006

IN THE CLAIMS:

The status of the claims on appeal are shown in the following CLAIM LISTING.

CLAIM LISTING:

1-157. (Cancelled).

158. (Previously Presented) A nonwoven fabric comprising:
a first layer of substantially parallel first yarns; and
a second layer of substantially parallel second yarns;
the first and second yarns being substantially perpendicular to one another and the
first and second layers being adhered together with an adhesive, wherein:
(a) the adhesive is applied to one side of the first layer of substantially parallel
yarns in a discontinuous manner;
(b) the adhesive forms random bridges between substantially parallel yarns of the
first layer; and
(c) the adhesive is located substantially only between the first and second layers
of the adhered together substantially perpendicular yarns.

159. (Previously Presented) The nonwoven fabric of claim 158, wherein
the adhesive is on only one side of the first yarns.

160. (Previously Presented) The nonwoven fabric of claim 159, wherein
the substantially parallel first yarns in the first layer are held together to form a sheet by
the bridges of the adhesive which prevent twisting of the individual first yarns in the first
layer.

161. (Previously Presented) The nonwoven fabric of claim 159, wherein the adhesive is on the one side of the first yarns at a level of from about 5 weight percent to about 25 weight percent, based upon the total weight of the sheet of the first yarns.

162. (Previously Presented) The nonwoven fabric of claim 161, wherein the total weight of the sheet of the first yarns is about 50 g/m^2 and the adhesive weight is about 2 to 15 g/m^2 .

163. (Previously Presented) The nonwoven fabric of claim 161, wherein the total weight of the sheet of the first yarns is about 50 g/m^2 and the adhesive weight is about 5 to 10 g/m^2 .

164. (Previously Presented) The nonwoven fabric of any one of claims 158-163, wherein the first yarns are selected from the group consisting of polymer fibers, natural fibers, synthetic fibers, composite fibers, carbon fibers, glass fibers, metallic fibers and graphite.

165. (Previously Presented) The nonwoven fabric of claim 164, wherein the polymer fibers are selected from the group consisting of polyester, polyethylene, rayon, polypropylene and nylon fibers.

166. (Previously Presented) The nonwoven fabric of claim 164, wherein the natural fibers are selected from the group consisting of cotton fibers and wool fibers.

167. (Previously Presented) The nonwoven fabric of claim 164, wherein the metal fibers are selected from the group consisting of copper, gold, aluminum, silver and platinum.

168. (Previously Presented) The nonwoven fabric of claim 164, wherein one or more of the first yarns are glass fibers.

169. (Previously Presented) The nonwoven fabric of any one of claims 158-163, wherein the substantially parallel first yarns have been formed in a warp-direction and supported and bonded on only one side by the adhesive.

170. (Previously Presented) The nonwoven fabric of claim 169, wherein the adhesive has been applied to the first yarns by dip/nip saturation, spraying, gravure coating, or kiss coating.

171. (Previously Presented) The nonwoven fabric of claim 170, wherein the adhesive has a thickness of about 0.25 mil to about 1 mil.

172. (Previously Presented) The nonwoven fabric of claim 170, wherein the adhesive is a heat activatable adhesive.

173. (Previously Presented) The nonwoven fabric of claim 172, wherein the adhesive is a hot melt adhesive.

174. (Previously Presented) The nonwoven fabric of claim 173, wherein the adhesive is a hot melt copolyester polymer.

175. (Previously Presented) The nonwoven fabric of claim 170, wherein the adhesive is a scrim or lace web of adhesive or a meltblown adhesive.

176. (Previously Presented) The nonwoven fabric of any one of claims 158-163, wherein the adhesive is from about 5 to 20 percent by weight of the total weight of the fabric.

177. (Previously Presented) The nonwoven fabric of claim 176, wherein the adhesive is from about 10 to 15 percent by weight of the total weight of the fabric.

178. (Previously Presented) The nonwoven fabric of any one of claims 158-163, wherein the second yarns extend at an angle of about 80 degrees to about 89.7 degrees relative to the first yarns.

179. (Previously Presented) The nonwoven fabric of claim 178, wherein the second yarns extend at an angle of about 85 to about 89.7 degrees relative to the first yarns.

180. (Previously Presented) The nonwoven fabric of any one of claims 158-163, wherein the first yarns are equally spaced apart and the second yarns are equally spaced apart.

181. (Previously Presented) The nonwoven fabric of any one of claims 158-163, wherein the first layer and/or the second layer has a density of at least 40 yarns per inch in a transverse direction of the yarns.

182. (Previously Presented) The nonwoven fabric of claim 181, wherein the first layer and/or the second layer has a density of between 40 and 140 yarns per inch in a transverse direction of the yarns.

183. (Previously Presented) The nonwoven fabric of claim 182, wherein the first layer and/or the second layer has a density of between 60 and 100 yarns per inch in a transverse direction of the yarns.

184. (Previously Presented) The nonwoven fabric of claim 183, wherein the first layer has a density of 40 to 90 yarns per inch of 30/1 to 36/1 count yarn.

185. (Previously Presented) The nonwoven fabric of claim 183, wherein the second layer has a density of 90 to 140 yarns per inch of 36/1 count yarn.

186. (Previously Presented) The nonwoven fabric of claim 164, wherein the second yarns are selected from the group consisting of polymer fibers, natural fibers, synthetic fibers, composite fibers, carbon fibers, glass fibers, metallic fibers and graphite.

187. (Previously Presented) The nonwoven fabric of claim 186, wherein the polymer fibers are selected from the group consisting of polyester, polyethylene, rayon, polypropylene and nylon fibers.

188. (Previously Presented) The nonwoven fabric of claim 186, wherein the natural fibers are selected from the group consisting of cotton fibers and wool fibers.

189. (Previously Presented) The nonwoven fabric of claim 186, wherein the metal fibers are independently selected from the group consisting of copper, gold, aluminum, silver and platinum.

190. (Previously Presented) The nonwoven fabric of claim 186, wherein one or more of the second yarns are glass fibers.

191. (Previously Presented) The nonwoven fabric of claim 186, wherein one or more of the first yarns are spun polyester yarns.

192. (Previously Presented) The nonwoven fabric of claim 186, wherein one or more of the second yarns are single strand cotton yarns.

193. (Previously Presented) The nonwoven fabric of claim 169, wherein the second yarns have been formed in a weft-direction and a side of the second yarns are supported by, and adhered to, the one side of the first yarns by the adhesive, applied to only the one side of the first yarns.

194. (Previously Presented) The nonwoven fabric of claim 193 which has a weft-direction strength equal to its warp-direction strength.

195. (Previously Presented) The nonwoven fabric of claim 193, wherein the denier of all the first and second yarns is approximately the same.

196. (Previously Presented) The nonwoven fabric of claim 193, wherein the denier of some of the first yarns is different and/or the denier of some of the second yarns is different.

197. (Previously Presented) The nonwoven fabric of claim 193, wherein the denier of all the first yarns is the same and the denier of all the second yarns is the same.

198. (Previously Presented) The nonwoven fabric of claim 193, wherein the denier of the first yarns is different from the denier of the second yarns.

199. (Previously Presented) The nonwoven fabric of claim 193, wherein some of the second yarns are of a smaller denier than the first yarns.

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REMARKS

1. Real Party:

The real party in interest in this appeal is Hunter Douglas, Inc., the assignee of the subject application.

2. Related Actions:

Appellant hereby confirms that there are no related prior or pending appeals and/or interferences regarding this application. Likewise, there are no prior or pending related judicial proceedings.

3. Concise Summary of the Invention:

Claims 158-199 are pending herein. All of the pending claims depend either directly or indirectly from Claim 158, reproduced here:

158. A nonwoven fabric comprising:

a first layer of substantially parallel first yarns; and
a second layer of substantially parallel second yarns;

the first and second yarns being substantially perpendicular to one another and the first and second layers being adhered together with an adhesive, wherein:

(a) the adhesive is applied to one side of the first layer of substantially parallel yarns in a discontinuous manner;

(b) the adhesive forms random bridges between substantially parallel yarns of the first layer; and

(c) the adhesive is located substantially only between the first and second layers of the adhered together substantially perpendicular yarns.

Claim 158 clearly recites several features of the claimed nonwoven fabric, namely:

- (1) parallel first yarns (e.g., warp yarns);
- (2) parallel second yarns (e.g., weft yarns);
- (3) wherein the first and second yarns are substantially perpendicular and bound by adhesive; and wherein:
 - (4) the adhesive is applied to one side of the first yarns in a discontinuous manner;
 - (5) the adhesive forms random bridges between the parallel first yarns; and
 - (6) the adhesive is located substantially only between the layers of the first and second yarns.

These features are best illustrated in Figures 61A and 61B of the application, a portion of each shown here:

From Fig. 61A:



Figure 61A shows the side of the fibers which includes the discontinuous adhesive and shows the adhesive bridges between the substantially parallel yarns.

From Fig. 61B:



Figure 61B shows the opposite side of the fibers – showing no adhesive coating, but the random adhesive bridges on the opposite side are visible between the substantially parallel yarns.

Support for these claim limitations comes from the specification as filed, e.g., at paragraph no. [0129]:

[0129] One preferred nonwoven fabric of the present invention has parallel yarns held in a substantially parallel and nontwisting relationship in the form of a nonwoven, fabric-like sheet. Such materials are referred to herein as warp yarn substrates, and two manufacturing units for the formation of such substrates have been developed. In each case, adhesive is applied to one side of the parallel

yarns. The adhesive is advantageously applied in a random pattern, forming bridges of adhesive between parallel yarns. These adhesive bridges provide the backbone of the warp yarn substrate, giving it fabric-like flexibility and feel. The bridges also hold the parallel positioning of the fibers and prevent twisting of individual fibers.

4. Rejections:

Five rejections have been maintained by the Examiner:

1. Claims 158-160, 164, 169, 170, 178-180, 186, and 193-199 have been rejected under 35 U.S.C. §102(b) as being anticipated by Bascom (US 3582443).
2. Claims 158-160, 164, 165, 169, 170-173, 178-180, 186, 193, 197, and 198 have been rejected under 35 U.S.C. §102(b) as being anticipated by Harwood (US 2900980).
3. Claims 158-167, 169-189, and 192-199 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Hartstein (US 3591434) in view of Bodford et al. (US 5342469).
4. Claims 168, 190 and 191 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Hartstein in view of Bodford et al. and further in view of Pittman (US 3753842).

5. Claims 161-163, 165-168, 171-174, 176, 177, 181-185 and 187-192 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Bascom (US 3582443).

In the Advisory Action, the following statement was made by the Examiner in support of these five rejections:

The amendment does not overcome the art rejections of record because it is unclear how the bridge structure produces a structurally different final product than the prior art. The process limitations disclosed by the applicant produce a composite structure having a first of parallel yarns and a second set of parallel yarns, the two sets of yarns run perpendicular to each other, with a discontinuous layer of adhesive between the two layers. Upon heating the bridges will melt and form bonds between the two sets of parallel yarns. Thus, the bridges will produce bonds in the final product and not remain in the form of the bridges. Therefore, the bridges are a feature of an intermediate product which then changes structure to produce the final product. The patentability of a product is based upon the structure of the final product itself and not the method of making the product unless the method is shown to manipulatively effect the structure. The applicant has not shown that the bridges in the adhesive will produce any unique structural features which are not present in the prior art. Therefore, the claimed product has the same structural features disclosed by the prior art even if the prior art uses a different process to make the final product.

5. Grouping of Claims

Appellant believe that all of the claims under appeal are separately patentable for the reasons set forth in the Arguments Section.

6. Evidence Relied Upon:

Appellant is relying upon no evidence other than the file history of the present application and the cited prior art. Thus, no Appendix is required for this brief.

7. Arguments:

Claims 158-160, 164, 169, 170, 178-180, 186, and 193-199 have been finally rejected under 35 U.S.C. §102(b) as being anticipated by Bascom (US 3582443). This rejection should be reversed.

Anticipation requires identity of invention. Bascom does not anticipate any of the rejected claims because Bascom neither teaches nor suggests the claimed non-uniform, i.e., discontinuous, random bridges of adhesive applied to the first layer of yarns, as recited in the amended claim, which carries through to the claims that depend either directly or indirectly with Claim 158.

Instead, Bascom teaches a “continuous” or uniform adhesive coating, applied to either one set of the perpendicular yarn sets, or to both yarn sets. More particularly, Bascom discloses a process of making non-woven fabrics by applying adhesive essentially only between warp-direction fibers WS and weft-direction fibers CS. See column 7, lines 32-35 and column 9, lines 57-61. The processes described by Bascom requires highly controlled application of adhesive to selected individual warp strands and/or selected individual cross strands, with other of the warp and cross strands remaining free of adhesive. See Col. 1, line 69 – Col. 2, line 30:

In the present invention a group of warp strands are assembled in a desired disposition and overlaid with a group of cross or fill strands after adhesive has

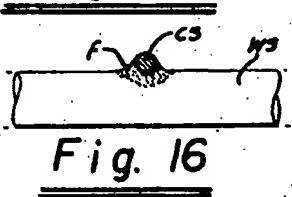
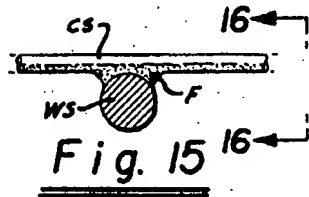
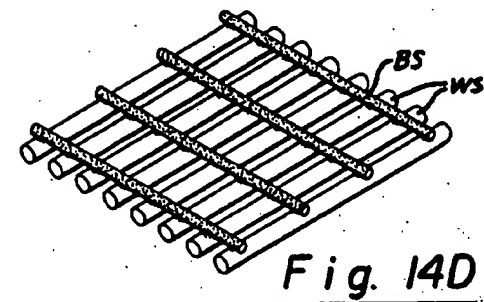
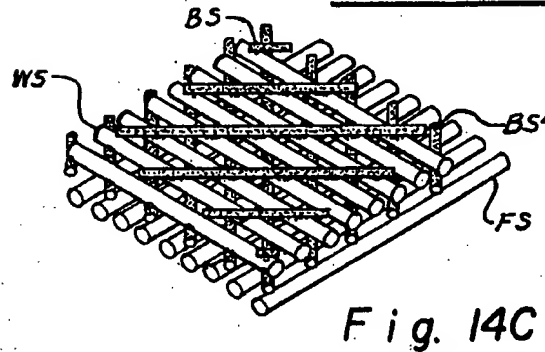
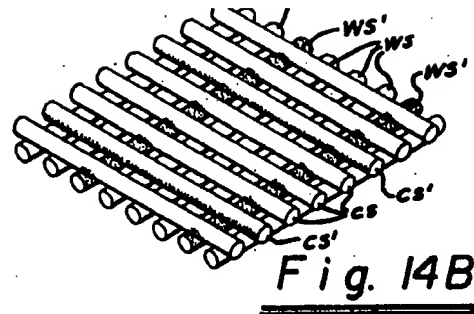
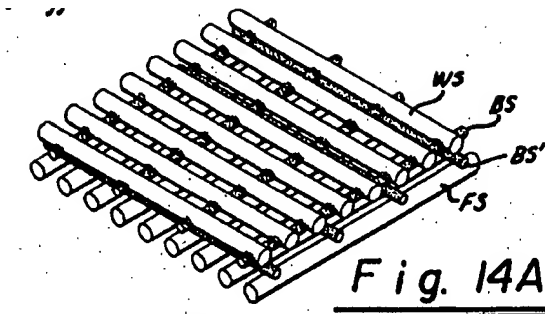
been applied to one or both sets of strands. Heat and pressure applied for a period of time cause the two layers of fibers to adhere to one another.

The warp strands, under a controlled tension, are stabilized laterally and vertically by a pair of radially spaced, reversely curved arcs effective to turn the warp strands through two steep angles. In a preferred mode, each angle may be about 90°. As a result, the warp strands passing through the two arcs are stably retained in the lowermost portions of the curves and are precisely positioned at the outlet of the second arc.

Cross or fill strands are engaged with the warp strands at the outlet of the second arc under a controlled pressure. Both strands are supported on a series of closely spaced upstanding edges which aid scavenging of adhesive. The edges are inclined at an angle to both the warp and fill strands to facilitate movement of the strands over the edges and to produce scavenging of adhesive by movement of the adhesive down the groove until it is picked up in the fabric. The edges are spaced to give adequate line support to the strands.

The cross strands are fed from rotating magazines which contain reservoirs for the adhesive. The cross strands, before being laid on the warp strand, has a closely controlled amount of adhesive applied on the side immediately adjacent the warp strands, and substantially all adhesive is removed from the other areas of the cross strand. Adhesives can also be applied to selected warp strands in closely controlled quantities on the sides facing the cross strands to thereby produce a bi-directional fabric having equal strength in both directions.

These features of the Bascom invention are illustrated in the Figures, particularly Figs. 14A, 14B, 14C, 14D, 15 and 16, shown below:



INVENTOR
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BY
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Since nothing is taught or suggested about adhesive bridges that randomly contact parallel yarns of the first layer of parallel yarns as claimed herein, Bascom clearly fails to anticipate the rejected claims.

Specifically:

Claim 158 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 159 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 160 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 164 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 169 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 170 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 178 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 179 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 180 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 186 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 193 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 194 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 195 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 196 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 197 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 198 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

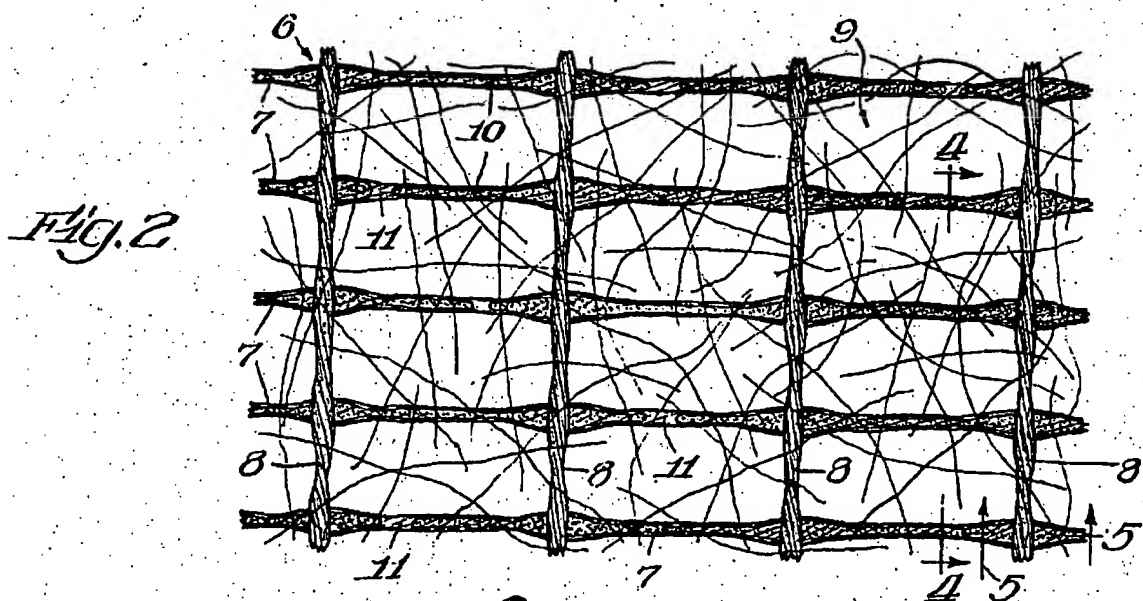
Claim 199 – Bascom fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Accordingly, reversal of the Section 102(b) rejection of Claims 158 -160, 164, 169, 170, 178-180, 186, and 193-199 is proper.

Claims 158-160, 164, 165, 169, 170-173, 178-180, 186, 193, 197, and 198 have been finally rejected under 35 U.S.C. §102(b) as being anticipated by Harwood (US 2900980). This rejection should be reversed.

As above, anticipation requires identity of invention. Harwood does not anticipate the rejected claims because Harwood does not teach each of the elements recited in Claim 158. Harwood specifically fails to teach or suggest the claimed feature defined above as (5) – namely that the adhesive forms random bridges between the parallel first yarns.

Harwood does teach the use of discontinuously applied adhesive on one side of the first layer of substantially parallel yarns. See the intentional gaps of missing adhesive (11) on threads (7) in Figure 2, shown below:



Instead of “adhesive bridges” as claimed herein, Harwood adds another fabric for support of parallel yarns – an applique (shown above as 9). Harwood’s invention is taught more particularly at Col. 3, line 33 to Col. 4, line 20, reproduced below:

The wrapper 2 of the napkin is formed of a cross-laid thread backing or carrier web 6 comprising a series of spaced, substantially parallel lengthwise extending threads 7 and a series of spaced, substantially parallel crosswise extending threads 8, and an applique 9 of fibers. The threads 8, in this instance, are disposed substantially perpendicularly to the threads 7 so as to resemble woven gauze, and said threads 8 are adhesively bonded to said threads 7 by adhesive 10 on the threads 7, said adhesive serving to also bond said fiber applique to the thread-formed web. If desired, the cross-laid threads 7 and 8 may be disposed diagonally of the length of the web so as to present a diamond network pattern, and there may be one or more additional sets of threads cross-laid on those illustrated, the threads of such additional sets being disposed at angles to the threads of both of said other sets. Parallel thread arrangement is not essential and may give way to non-parallel threads including various arrangements such as sets of wavy or undulating threads which threads may extend in one general direction without necessarily being parallel to one another.

The adhesive 10 on the threads 7 is preferably applied so as to be discontinuous along the lengths of said threads, irregularly spaced breaks or interruptions in said adhesive being indicated at 11. The cross threads 8 will seldom engage adhesive-free areas on adjacent lengthwise threads so that said cross threads will, notwithstanding said adhesive-free lengths, become effectively bonded to the adhesive-bearing threads. The cross threads are caused to engage adhesive bearing areas of the lengthwise threads with sufficient intimacy to insure adhesive interbonding of said lengthwise and crosswise

threads, and calendering of the web may be employed to increase or amplify such intimacy. Due to this adhesive inter-bonding of the lengthwise and crosswise threads it is very practicable to-produce stable cross-laid thread webs having such open mesh construction as 4 x 4. The example represented in Figure 2 of the drawing is 10 x 5 construction, Figure 2 being greatly enlarged.

The fiber applique 9 may consist of natural or synthetic fibers or mixtures thereof and said fibers may be deposited in a more or less haphazard arrangement as represented in Figure 2 so that some, if not most, of the fibers will engage at least one adhesively coated thread portion so as to be thereby directly adhesively attached to the thread web. The fibers which form the applique 9 also have a normal tendency to cling to engaged thread portions even in the absence of adhesive so that an important degree of cohesion exists between the fibers and the engaged portions of the adhesive-free cross threads 8. Furthermore, intertwining of the fibers in the applique also serves to anchor fibers to fibers so that a fiber which happens to miss engagement with any thread of the thread web may nevertheless be anchored thereto through the agency of other fibers which are directly attached to the thread web. Carded and similar fiber webs may also be employed to form the fiber applique. The fiber applique may be preformed and applied to the backing web or the applique may be formed on the backing web by depositing thereon fibers discharged in unmatted or free condition from air-laying, carding, and other forms of free fiber delivering apparatus.

Since nothing is taught or suggested about adhesive bridges that randomly contact parallel yarns of the first layer of parallel yarns as claimed herein, Harwood clearly fails to anticipate the rejected claims.

Specifically:

Claim 158 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 159 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 160 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 164 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 165 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 169 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 170 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 171 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 172 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 173 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 178 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 179 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 180 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 186 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 193 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 197 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Claim 198 – Harwood fails to teach all of the elements recited. There are no bridges of adhesive between parallel first yarns taught in the cited art.

Accordingly, the Section 102(b) rejection of Claims 158-160, 164, 165, 169, 170-173, 178-180, 186, 193, 197 and 198, should be reversed. Such action is respectfully requested.

Claims 158-167, 169-189, and 192-199 have been finally rejected under 35 U.S.C. §103(a) as being unpatentable over Hartstein (US 3591434) in view of Bodford et al. (US 5342469). This rejection should be reversed.

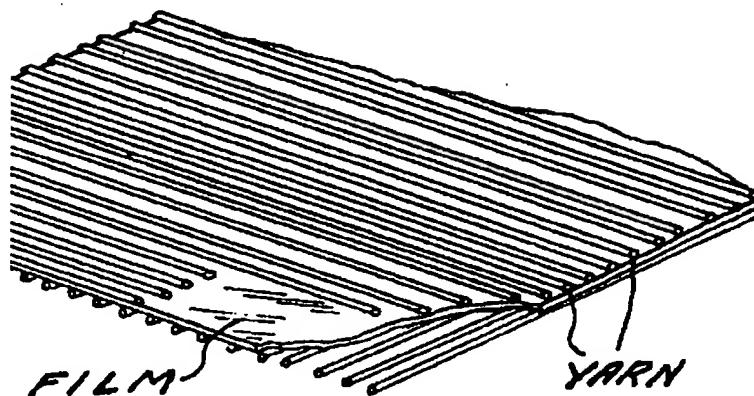
The proposed combination of Hartstein and Bodford does not make the rejected claims obvious, for the following reasons:

The rejection implies that the bridges as claimed are formed between the first and second layers. This is incorrect, as Claim 158 makes it clear that the bridges claimed herein are between parallel yarns **of the first layer** – not between yarns of the first and second layers. Accordingly, this proposed combination of art does not make the claimed invention obvious.

Moreover, Claim 158 requires that the adhesive layer not be uniform – it is both “discontinuous” (i.e., it is “non-uniform”) and it forms random bridges between substantially parallel yarns of the first layer.

Hartstein clearly teaches a set of parallel yarns that are bonded to one side of a self-supporting, discrete thermoplastic film, thereby forming a uni-axial laminate. A second set of parallel yarns are cross-laid to the uniaxial laminate on the other side of the thermoplastic film, forming a sandwich – a bi-axial laminated non-woven fabric. This is best illustrated in Figure 7, shown below:

Fig. 7.



Nothing in Hartstein teaches or suggests the bridges claimed herein, which are randomly formed to connect parallel yarns of the first layer.

Bodford teaches combining two substrates (12, 14) by an adhesive structure (20) formed of an array of substantially linear filaments or strands of adhesive. These linear strands are discontinuous, but not random in orientation – as they are substantially unbroken and uncrossed. Nothing in Bodford teaches or suggests the bridges claimed herein, which are randomly formed to connect parallel yarns of the first layer.

Moreover, while Bodford states that the adhesive is “discontinuous” – the teachings of the specification define a nearly uniform adhesive structure – with substantially unbroken linear filaments, having uniform diameter, with only incidental overlap, resulting in a layer having substantially uniform thickness. See Col. 3, line 60 to Col. 4, line 20, reproduced here:

A critical feature of the present invention is that the adhesive structure 20 disposed intermediate the first and second substrate 12, 14 for securing them together to form the composite is both discontinuous and capable of forming the composite 10 without significantly modifying the properties of either of the first and second substrates 12, 14. This is achieved by the adhesive structure 20 being formed of an array of substantially linear filaments or strands of adhesive. The substantial linear filaments are preferably 3-100 microns (optimally 5-30 microns) in diameter and are typically formed by passage through a die (for example, the die of a spinneret) so that the filaments emerge unbroken and substantially linearly (i.e., uncrossed) from the apertures of the die. Incidental transient air currents impinging upon the linear filaments before they contact a substrate may result in some overlapping of the linear filaments as they are laid down upon the substrate; accordingly, the filaments are best described as only being "substantially linear" rather than totally linear. The adhesive structure 20 may be defined by continuous filaments, non-continuous filaments or a mixture of both as the continuous filaments emerging from the die may be broken by incidental transient air currents or the like. The filaments are commonly, but not necessarily, circular in cross section. The adhesive structure 20 is of substantially uniform thickness, typically equal to the diameter of the adhesive filaments since there is essentially only a single layer of filaments intermediate the substrates 12, 14.

This "critical feature" is best illustrated in Figure 3, shown here:

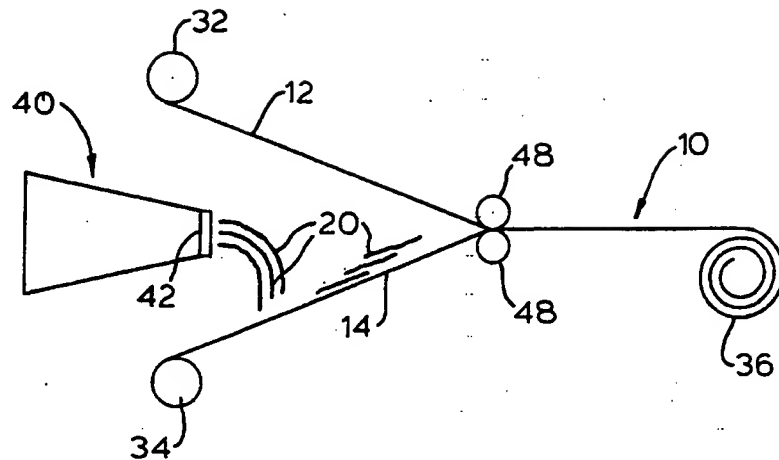


FIG. 3

Clearly the teaching of Bodford fails to make up the deficiencies of the primary reference. Bodford merely discloses a process of making a laminate (called a "composite") by applying a parallel array 20 of strands of adhesive between a non-woven substrate 12 and a continuous plastic film 14 --- not between warp-direction and weft-direction yarns.

Also, Appellant submits that the proposed combination of Hartstein and Bodford is simply not logical. Hartstein uses a uniform material - a self-supporting, discrete thermoplastic film - as the adhesive for his composite sandwich of substrate materials. In contrast thereto, Bodford deposits an array 20 of parallel strands of adhesive between two substrates 12 and 14 - in order to form his composite sandwich of substrate materials.

Why would the skilled artisan combine these two references? Hartstein makes one type of product and Bodford makes another type of product. The teachings are

simply not combinable as suggested. Given this, the proposed Section 103(a) rejection is simply not valid, and the rejected claims are not obvious over the combined teachings of the cited art.

Specifically:

Claim 158 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 159 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 160 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 161 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 162 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 163 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 164 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 165 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 166 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 167 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 169 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 170 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 171 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 172 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 173 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 174 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 175 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 176 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 177 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 178 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 179 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 180 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 181 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 182 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 183 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 184 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 185 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 186 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 187 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 188 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 189 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 192 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 193 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 194 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 195 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 196 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 197 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 198 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Claim 199 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by either reference, or the combined teachings thereof.

Accordingly, the Section 103(a) rejection of Claims 158-167, 169-189, and 192-199 should be reversed. Such action is respectfully requested.

Claims 168, 190 and 191 have been finally rejected under 35 U.S.C. §103(a) as being unpatentable over Hartstein in view of Bodford et al. and further in view of Pittman (US 3753842). This rejection should be reversed.

The proposed combination of Hartstein (US 3591434), Bodford (US 5342469) and Pittman (US) does not make Claims 169, 190 and 191 obvious, for the following reasons:

Hartstein and Bodford have been distinguished above. They teach nothing about the random, discontinuous bridges of adhesive claimed herein which hold the first layer of parallel yarns together. Hartstein has a self-supporting thermoplastic film as his adhesive. Bodford uses an array of substantially linear filaments or strands of adhesive.

Pittman discloses a nonwoven fabric made by adhering overlying warp yarns to weft yarns with an adhesive. However, Pittman's adhesive is applied to his yarns by "dipping" the yarns or fabric in the adhesive or by "padding or spraying" the adhesive on the yarns or fabric to "coat" the yarns. See column 3, lines 2-12 and column 8, lines 2-15 of Pittman, repeated here:

The adhesive composition of the present invention may be applied to the yarns prior to formation of the fabric, or the adhesive may be applied to the fabric after the yarns have been oriented in the desired manner. The application of the adhesive can be accomplished by dipping the yarn or fabric in an emulsion or solution of the adhesive, preferably an aqueous emulsion of the adhesive, and thereafter squeezing the yarn or fabric to remove excess liquid and evenly distribute the adhesive on the yarn or fabric. Other techniques known in the art for applying liquids to fibers such as by padding or spraying can also be employed. The amount of adhesive composition incorporated into the fabric can

vary over a wide range depending upon the nature of the yarn, the nature of the adhesive composition, and the end use contemplated for the fabric. For example, where a stiff fabric is desirable, increased amounts of adhesive may be applied to the fabric without detracting from its utility whereas lesser amounts of adhesive or an additional plasticizer generally may be required if the desired product is to be soft and flexible.

The adhesive compositions of this invention have been found to be useful particularly in the preparation of non-woven textile fabrics, especially fabrics comprised of yarns composed of synthetic materials such as polyesters, polyethers and regenerated cellulose. The non-woven fabrics can be obtained by heat treating a non-woven fabric wherein the yarns have been coated with the adhesive composition of the invention. Coating of the yarns can be accomplished either by passing the yarns through an emulsion of the adhesive prior to formation of the fabric structure, or the fabric structure can be prepared and thereafter conveyed through an emulsion of the adhesive.

The structure and orientation of the yarns and fibers of the non-woven textile fabrics of this invention may be obtained by any of the processes known in the art. Although the adhesive compositions of this invention are useful for bonding non-woven fiber and filament products having a well defined oriented structure or fibrous mats in which the fibers or filaments are distributed haphazardly or in a random array, the adhesive is particularly useful for bonding textile fabric structures wherein the yarns are arranged in an, oriented pattern and bonded together at their crossing points., For example, as shown in FIG. 1, a layer of parallel fill yarns 10 is contacted with a layer of parallel warp, yarns 11, the warp and fill yarns intersecting at right angles. In FIG. 2, the warp and fill

yarns of a fabric may be arranged so that the fill yarns 10 are substantially parallel to each other although the warp yarns 11 are substantially parallel to each other although the warp yarns and fill yarns do not intersect at right angles.

Clearly, nothing in Pittman remedies the deficiencies of Hartstein and Bodford. The proposed combination of art simply fails to make a prima facie case of obviousness against Claims 168, 190 and 191.

Specifically:

Claim 168 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by any single reference, or the combined teachings thereof.

Claim 190 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by any single reference, or the combined teachings thereof.

Claim 191 is neither taught nor suggested by the proposed combination of art. There are no bridges of adhesive between parallel first yarns taught or suggested by any single reference, or the combined teachings thereof.

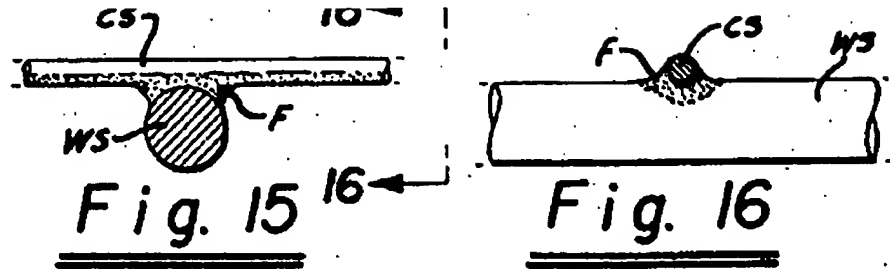
Accordingly, the Section 103(a) rejection of Claims 168, 190 and 191 should be reversed. Such action is respectfully requested.

Claims 161-163, 165-168, 171-174, 176, 177, 181-185 and 187-192 have been finally rejected under 35 U.S.C. §103(a) as being unpatentable over Bascom (US 3582443). This rejection should be reversed.

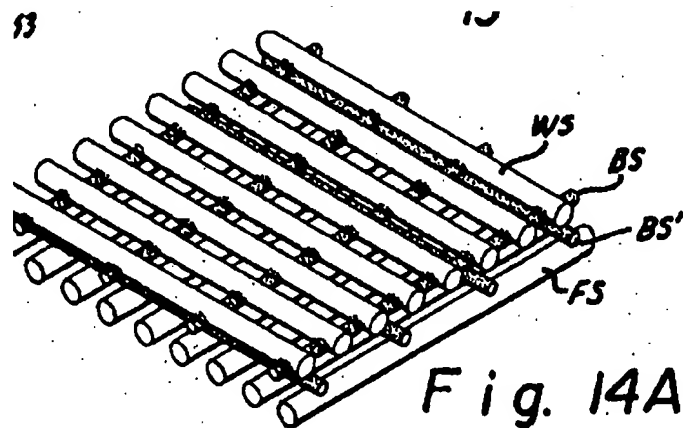
Bascom does not make the rejected claims obvious, because Bascom neither teaches nor suggests the claimed non-uniform, i.e., discontinuous, random bridges of adhesive applied to the first layer of yarns, as recited in Claim 158, which also carries through to the claims that depend either directly or indirectly with Claim 158.

Instead, Bascom teaches a “continuous” or uniform adhesive coating, applied to either one set of the perpendicular yarn sets, or to both yarn sets. More particularly, Bascom discloses a process of making non-woven fabrics by applying adhesive essentially only between warp-direction fibers (WS) and weft-direction fibers (CS). See Column 7, lines 32-41 and Column 9, lines 57-61, reproduced here:

As discussed above, only that adhesive is used which is needed to develop a strong filleted bond between the warp and cross strands, and this is illustrated in FIGS. 15 and 16. In FIGS. 15 and 16 the warp strand WS is of somewhat larger diameter than the cross strand CS. However, and as will be described in further detail below, same size strands may be used in those instances where it is desired to develop a bi-directional fabric having a mini- 40 mum of bonds but very high adhesion between layers.



In FIG. 14A a four layer product is shown which comprises two main layers of warp strands WS and fill strands FS disposed an angle to one another and joined by two layers of binder strands BS and BS' which are adhesively coated and bonded to one another. The strands in the binder strand layers are widely spaced and of small diameter, and the strands of the two main layers are free of adhesive except for the junctions with the binder strands. As a result, the handling characteristics of the completed fabric is substantially independent of the adhesive so that the woven fabric exhibits hand and drape characteristics of a natural fiber, woven fabric.



The processes described by Bascom requires highly controlled application of adhesive to selected individual warp strands and/or selected individual cross strands, with other of the warp and cross strands remaining free of adhesive. See Claim 1.

Since nothing is taught or suggested about bridges that randomly contact and link parallel yarns of the first layer of parallel yarns, as claimed herein, Bascom fails to make the rejected claims obvious.

Specifically:

Claim 161 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested Bascom.

Claim 162 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 163 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 165 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 166 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 167 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 168 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 171 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 172 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 173 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 174 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 176 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 177 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 181 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 182 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 183 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 184 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 185 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 187 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 188 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 189 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 190 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 191 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Claim 192 is neither taught nor suggested by the cited prior art. There are no bridges of adhesive between parallel first yarns taught or suggested by Bascom.

Accordingly, reversal of the Section 103(a) rejection of Claims 161-163, 165-168, 171-174, 176, 177, 181-185 and 187-192 is respectfully requested.

Finally, in the Advisory Action, the Examiner admits that the presently claimed invention is “a composite structure having a first of parallel yarns and a second set of parallel yarns, the two sets of yarns run perpendicular to each other, with a discontinuous layer of adhesive between the two layers.” This is correct – and the prior art cited against this invention does not teach or make obvious the claimed invention.

The Examiner’s comments regarding what happens to the bridges upon heating (e.g., “the bridges will melt and form bonds between the two sets of parallel yarns”) are irrelevant to the patentability of the claimed invention – which recites NOTHING about heating. The bridges are, at the very least, a feature of an **intermediate product** – which the present inventors are entitled to claim. Support for this product is found in the specification as filed:

In Paragraph No. [0188], the specification provides the following information:

If desired, the bond between the warp yarns and weft yarns can be made more intimate, for example by heating and cooling the product under pressure, e.g., by a lamination apparatus.

In Paragraph No. [0205], the specification teaches that the presently claimed composite fabric, formed by the XD machine, is subsequently fed to a flat bed laminator – which is where the adhesive is further melted and the crossed-yarns are pressed together:

The heating zone melts the adhesive between the fabric layers and causes the adhesive bridges to flow and spread between the layers of fabric.

These two statements clearly show that the presently claimed nonwoven fabric, with bridges of adhesive, exists as a separate intermediate product – and shows that the adhesive bridges are still between the yarns of the fabric before any further processing is conducted, for example, in the flat bed laminator. Moreover, this statement implies that the flat bed laminator leaves, at least partially intact, the claimed bridges of adhesive between the warp yarns while also melting these bridges somewhat, so that they flow and spread (e.g., to the weft yarns). Nothing in the Examiner's question regarding the bridges refutes this point. The bridges are present, between the fabric layers – making this product both novel and unobvious compared to the products defined by the cited prior art.

Given that the pending claims cover a product that exists – the product, and the claimed directed thereto are entitled to patent protection. Nothing in the claim language requires melting of the adhesive. The five rejections should all be reversed.

8. Conclusion:

For the reasons set forth above, Applicant respectfully requests that the Board reverse the Examiner in this application.

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